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WESTON

MEMORANDUM

TO: Thomas C. Greengard
Rockwell International

FROM: Suzanne S. Paschke/Michael A. Anderson
WESTON

DATE: 24 April 1989

SUBJECT: Minutes of Meeting with EPA and CDH on 19 April 1989
W.O. No.: 2029-20-03

On 19 April 1989, representatives from Rockwell International and the U.S. Department of Energy (DOE) met with representatives of the Environmental Protection Agency (EPA) and the Colorado Department of Health (CDH) to discuss Rockwell International responses to EPA comments on the 881 Hillside Phase II Remedial Investigation Report. Present at the meeting were:

Thomas C. Greengard	Rockwell International	(303) 966-7121
Michael Arndt	Rockwell International	(303) 966-4294
Michael A. Anderson	Roy F. Weston (representing Rockwell International)	(303) 980-6800
Suzanne S. Paschke	Roy F. Weston (representing Rockwell International)	(303) 980-6800
Benjamin P. Doty	Doty & Associates (representing Rockwell International)	(303) 233-0577
Greg Underberg	BDM Corporation (representing DOE)	(303) 966-4543
Chris Woods	BDM Corporation (representing DOE)	(303) 966-2305
Fred Dousett	CDH	(303) 331-4850
Patty Corbetta	CDH	(303) 331-4830
Scott Davies	CDH	(303) 331-4557
Martin Hestmark	EPA	(303) 293-1506
Nat Muillo	EPA	(303) 293-1668
Mike Wireman	EPA	(303) 293-1716
Jerry Porter	Tetra Tech (representing EPA)	(206) 822-9596
Brian O'Neal	Tetra Tech (representing EPA)	(206) 822-9596
Kurt Schmierer	Tetra Tech (representing EPA)	(206) 822-9596
Terry Ruiter	PRC (representing EPA)	(303) 295-1101

The meeting began at 9:30 a.m. with introductions. Nat Muillo explained that Tetra Tech of Scattle, Washington, is the current EPA contractor for review of Rocky Flats

documents, and they have reviewed Rockwell International responses to EPA comments on the 881 Hillside Phase II Remedial Investigation and Feasibility Study (RI/FS). However, PRC will be the EPA prime contractor for future review of Rocky Flats documents. Thus, Terry Ruiter of PRC attended the meeting to become familiar with the issues involved at Rocky Flats.

Nat continued by stating that EPA, CDH, and Tetra Tech have reviewed Rockwell International responses to EPA/Tetra Tech comments on the 881 Hillside Phase II RI/FS Report, and during this meeting EPA would like to go though these responses on a comment-by-comment basis. The discussion began with Section 4.0 of the RI report, as the issues raised in it and Section 5.0 are considered the most important by EPA and CDH.

Martin Hestmark began the discussion with RI Section 4.0, Comment 6. He asked what relationship the error term of a radiochemical analysis result has to the counting time for that sample. Mike Anderson replied that both the error term and the minimum detectable activity (MDA) of an analysis are related to the counting time as well as sample volume. Lower MDAs have been proposed in the Hydrogeochemical Background Characterization Plan for Rocky Flats Plant which call for increased sample counting times and increased sample volumes. Nat Muillo commented that criteria for MDAs and error bars must be established before EPA and CDH approval of remedial actions.

RI Section 4.0, Comment 8 was the next topic of discussion. Martin Hestmark feels Rockwell International should analyze all soil samples for uranium 235 as well as uranium 234 and 238 in order to calculate activity ratios between isotopes and to determine the type of uranium present (natural, depleted, or enriched). Activity ratios of 234 or 238 to 235 should be used to distinguish between natural and depleted uranium at the 881 Hillside. Nat Muillo also commented that based on existing data (large MDAs and error terms), EPA cannot determine whether uranium 235 is present at the 881 Hillside. Martin stressed that the RI report should not make qualitative statements as to the nature and extent of contamination if the data do not support such statements. Mike Anderson and Tom Greengard pointed out that as stated in the response to Section 4.0, Comment 8, uranium 235 is a small percentage of both natural and depleted uranium, so that the lack of uranium 235 data does not significantly impact conclusions in the RI report. Suzanne Paschke noted that 234 to 238 ratios were more accurate measurements of the type of uranium present. However, Rockwell International is currently analyzing all soil and water samples for uranium 235 as well as uranium 234 and 238.

The next topic of discussion was data validation and the interpretation of laboratory blank data for volatile and semi-volatile organic analyses. RI Section 4.0, Comments 10, 11, 12, and 13 deal with this issue. Mike Anderson explained that dilution factors should be used in any interpretation of laboratory blank data for soil samples where one gram of soil was used for the analysis. EPA representatives questioned whether one gram of soil was standard protocol and felt that five grams of soil should be used in volatile organic soils analyses. Brian O'Neal mentioned that the Contract Laboratory Program (CLP) recommends soil blanks as opposed to water laboratory blanks. He also stated that laboratory contamination should be eliminated. Mike Anderson agreed but pointed out that we have to use existing data and so must deal with the issue of laboratory contamination. Martin Hestmark stated that it is not a conservative approach to apply dilution factors when validating and interpreting organic results, and he does not want Rockwell International to do it again. Tom Greengard would like to defer these issues to a separate meeting when chemists and/or laboratory representatives are present to resolve the issue of dilution factors.

Mike Anderson continued the data validation discussion by emphasizing that these common laboratory contaminants were not of concern based on risk assessment calculations. Martin Hestmark feels that risk associated with these compounds is not the issue in the RI stage. He thinks Rockwell should present the data in the RI and rely on the FS and risk assessment to determine if site contaminants are of concern. The RI should not write off

contaminants based on risks. Fred Dousett feels Rockwell will have to collect more soils data from the 881 Hillside based on the existing data. Mike Anderson replied that if the risk assessment indicates no risk, then no further sampling should be required.

Brian O'Neal suggested an alternative method for applying laboratory blank data to analytical results. He feels Rockwell should run statistics on the existing blank data to determine the level of laboratory contamination for a given laboratory. He and other Tetra Tech representatives feel Rockwell should use this approach instead of applying the strict ten times rule provided in EPA guidance. Tom Greengard agreed with this idea of using all blank data from a laboratory to establish a variance of laboratory contamination for the final RI report.

Nat Muillo next discussed the Interim Remedial Action (IRA) at the 881 Hillside. He emphasized that the interim action be referred to as an IRA and not a removal action. Removal action connotes immediate threat to the public health exists. According to Mr. Muillo, the understanding of contamination at the 881 Hillside should be included in the Engineering Evaluation/Cost Analysis (EE/CA) for the IRA. Rockwell should proceed with the IRA and submit the EE/CA to EPA and CDH for review. Tom Greengard asked whether Rockwell should just proceed with the final RI/FS for the 881 Hillside and not with the IRA, and Nat Muillo replied that EPA will not wait until 1993 for action at the 881 Hillside. Nat Muillo feels Rockwell has a lot of good data. Existing data have not been rejected by EPA.

Martin Hestmark mentioned that Rockwell should not sample cuttings for volatile organic analysis and should not composite core for volatile organic analysis. Suzanne Paschke explained that cuttings were not sampled for laboratory analyses. Cuttings are only sampled for lithologic descriptions when there is poor core recovery.

Martin Hestmark continued by emphasizing that Rockwell cannot analyze risks separately for each compound. Risks are additive, and constituents cannot be eliminated from consideration based on individual risk calculations. Mike Anderson agreed but noted the risk values were exceedingly low regardless of additive effects.

Brian O'Neal stated that Tetra Tech does not feel Rockwell has found the maximum contaminant levels at the 881 Hillside, as soil samples in some cases were collected from the periphery of SWMUs, and composite samples do not indicate maximum concentrations. Mike Anderson asked if EPA feels Rockwell has collected sufficient soils data at the 881 Hillside, and Martin Hestmark replied no, they do not feel all SWMUs have been fully characterized. Specifically, boreholes at SWMU 119.2 were drilled to the south and west of the site instead of through the center. Tetra Tech is doing an in-depth aerial photograph review of the 881 Hillside for EPA. Suzanne Paschke and Mike Anderson explained that WESTON had also performed such a review. However, due to the tight schedule for the 881 Hillside RI drilling program, the aerial photograph review was not completed until after the Phase II drilling. In addition to 119.2, Brian O'Neal indicated that investigations of SWMU 102 were also inadequate. Based on his aerial photo review, there was drainage of an oily substance downhill of SWMU 102 to a surface impoundment adjacent to Woman Creek. This drainage and impoundment were never mentioned in the RI reports and should be sampled. Suzanne Paschke agreed that these features are evident on historical aerial photographs. It was not clear to what extent maximum concentrations through discrete samples will be required for a revised risk assessment and for incorporation into the FS regarding source control alternatives.

RI Section 4.0, Comment 14 was next questioned by Patty Corbetta. She felt Rockwell should support the soil gas results with water and soils data, and did not like the way quality assurance (QA) results were presented in Table 7. Suzanne Paschke pointed out that soil gas was only a screening tool, and at many locations at Rocky Flats Plant (such as the 903 Pad and East Trenches Areas), could not be directly correlated to ground-water quality data. Fred

Dousett agreed, but he also emphasized that investigation should occur at the edges of the soil gas plumes. More detail is needed at the boundaries of soil gas plumes to investigate the outliers. Rather than eliminate from further consideration soil or ground-water blank concentrations, or soil gas results below the level of precision, useful interpretation may be provided to direct future studies. Martin Hestmark suggested Rockwell take a more conservative approach by stating that volatile organic may be present in soils or soil gas as opposed to stating that they are undetected.

Mike Anderson again asked EPA where they stand on soil sample collection. Nat Muillo replied that additional soils data are definitely needed. Martin Hestmark agreed and reiterated that a more conservative interpretation of existing data is also needed. Specifically, he feels further soil sampling is necessary at SWMUs 119.2, 102, and 107. Rockwell must determine maximum contaminant levels at the 881 Hillside for the risk assessment. Nat Muillo stated that it is now EPA's responsibility to reply to Rockwell International with specific recommendations, since Rockwell submitted written responses to their comments on the RI/FS.

Brian O'Neal recommended Rockwell prepare a separate QA report to qualify data and append this report to the final RI report. This allows data validation to be separated from data interpretation. Mike Anderson questioned whether EPA really feels acetone and methylene chloride are present in samples from the 881 Hillside considering its apparent ubiquitous nature. Martin Hestmark replied that the RI report states acetone, methylene chloride, and bis-2(ethylhexyl)phthalate (BEHP) were waste constituents at the hillside, and he feels the concentrations of these contaminants can be correlated to other contaminants. Tom Greengard said he would like to have a separate meeting on the topic of quality assurance.

The meeting broke for lunch at 11:30 a.m. and reconvened at 12:40 p.m.

Brian O'Neal made three more points concerning soils at the 881 Hillside prior to moving on to Section 5.0 comments. He noticed that soils data were not corrected for dry weight, and Mike Anderson agreed. He also mentioned that QA data for inorganic analyses are missing from the RI report, and he emphasized that a full suite of volatile organic, semi-volatile organic, radionuclide, inorganic, and metals analyses should be run during additional soil sampling at the 881 Hillside. Mike Anderson informed him that the inorganic QA data exist. Tom Greengard reiterated that EPA should provide Rockwell with a list of data deficiencies for the 881 Hillside. Rockwell will then prepare a sampling plan to complete the work.

Mike Wireman began the discussion of ground-water flow and contaminant transport at the 881 Hillside by explaining that Rockwell should have a clear understanding of the flow regime at the 881 Hillside and how it relates to the regional flow system of the Arapahoe Aquifer. Mike Anderson pointed out that Rockwell had interpreted the existing data to the extent possible and specific comments are in order. Mike Wiseman went on to discuss how the bail-down/recovery tests performed at the 881 Hillside have provided good hydraulic conductivity values for the Rocky Flats Alluvium and colluvium. However, he is not as comfortable with the values for Woman Creek valley fill alluvium. He feels these values should be at least an order of magnitude greater that those for the Rocky Flats Alluvium since the valley fill alluvium is composed of reworked Rocky Flats Alluvium. Ben Doty pointed out that the valley fill alluvium conductivity values are an order of magnitude greater than those for the Rocky Flats Alluvium, and Suzanne Paschke mentioned that there are also clay layers in the valley fill alluvium which can cause local variations in hydraulic conductivity.

Mike Wireman continued by emphasizing the need for plume maps for the 881 Hillside Area. He also feels flow and contaminant transport modeling should be performed for the area to develop a conceptual model of the flow system. Mr. Wireman suggests Rockwell look at the detailed hydrostratigraphy of the 881 Hillside. He also mentioned that core recovery

was poor in the wells referenced in Section 5.0, Comment 1. Suzanne Paschke explained that these wells were drilled in the West Spray Field through up to 100 feet of Rocky Flats Alluvium. Core recovery in surficial materials was poor due to the cobbles and gravel in the Rocky Flats alluvium. In addition, 1986 coring was performed using air rotary methods. Current drilling operations are using water for coring with better core recovery.

Patty Corbetta continued the discussion with the comment that Rockwell should focus investigations on the site specific hydrogeology. She feels her written comments on the 1987 Phase I RI report were specific to that end. Mike Wireman emphasized Rockwell should identify the effect of mobility on contaminants as well as recharge/discharge areas. Rockwell should investigate recharge to the Arapahoe Formation from Woman Creek and should quantify the amount of water recharging the Arapahoe Formation from the 881 Hillside and Woman Creek. He also noted that lignites are rare in the Arapahoe Formation.

With respect to RI Section 5.0, Comment 3, Mike Wireman feels that seeps and spring should be sampled. Tom Greengard of Rockwell agreed but pointed out the logistical difficulties of an event sampling program.

Mike Wireman continued by questioning the relationship between Woman Creek surface water flow and valley fill alluvium ground-water flow. He feels Rockwell should better characterize this interaction. With respect to RI Section 5.0, Comment 5, Mike Wireman also feels Rockwell should identify which reaches of Woman Creek receive ground-water recharge and which reaches of Woman Creek discharge to either the valley fill alluvium or the Arapahoe Formation.

The discussion then returned to RI Section 5.0, Comment 4 and the volatile organic plume in colluvium at SWMU 119.1. Martin Hestmark stated that only one to four years were required for contaminants to travel through the colluvium based on hydraulic conductivity values presented in the RI report. Ben Doty explained that the plume has not moved farther down the hill due to the discontinuous nature of gravel lenses in the colluvium. Fred Dousett reemphasized that more drawings and plume maps are needed in the RI report to depict the conceptual model of ground-water flow and contaminant transport at the 881 Hillside.

Brian O'Neal then made the comment that quarterly sampling referenced in the RI report was not performed routinely or consistently. Mike Wireman added that event sampling of surface water and ground water would be effective in defining the flow system and water quality as the system is so dynamic. Tom Greengard replied that event sampling has been considered; however, there are problems with logistics. He suggested that a possible solution would be to sample a subset of wells, and Mike Wireman agreed.

At this point in the discussion, Ben Doty explained the current conceptual model of ground-water flow and contaminant transport from SWMU 119.1. Volatile organics have not yet reached Woman Creek valley fill alluvium because they are contained in a colluvial gravel lens which pinches out downslope. At the downslope contact between the gravel lens and the surrounding clay, ground-water flow rates are reduced and the gradient steepens due to the lower hydraulic conductivity. Thus, the contaminants are effectively being held in a "bowl" of colluvium. Ben Doty used Cross Section E-E' from the RI report to illustrate his explanation. This cross section is drawn with a five times vertical exaggeration, and Fred Dousett requested that all cross sections be constructed with no vertical exaggeration. Martin Hestmark continued by asking how unsaturated conditions at well 55-87 relate to the volatile organic detected in the South Interceptor Ditch (SID). Suzanne Paschke replied that the volatile organics detected in the SID were laboratory artifact. Mike Wireman then asked how long do precipitation events stay in the colluvium, and Ben Doty replied that residence time is on the order of days. Brian O'Neal suggested installing pressure transducers in wells for continuous water level measurements. Fred Dousett then asked what is the lateral extent of the colluvial gravel lens at well 4-87. Ben Doty replied that the downslope extent is not

known; however, during excavation of the french drain a geologist should be on site to examine the trench and look for gravel lenses.

Discussion of the IRA brought up the issue of the EE/CA and when it would be submitted to EPA. Nat Muillo stated that Rockwell had previously mentioned 24 April 1989 as the submittal date. Tom Greengard replied that the EE/CA will not be submitted to EPA and CDH until early in May.

Martin Hestmark expressed his doubts about Ben Doty's theory of ground-water flow from SWMU 119.1 and asked if any borings will be drilled along the french drain alignment. Ben Doty answered that several boreholes have already been drilled along the alignment by Aguirre Engineers, and Martin Hestmark requested that these borehole logs be incorporated into the EE/CA. Ben did not recall the presence of gravel in the borings drilled for the french drain. The colluvial gravel lenses are still an issue to EPA and CDH.

Martin Hestmark also took exception to the statement that the hydraulic system has "little potential" to transport contaminants in the response to Section 5.0, Comment 5. He feels this is an erroneous statement. Ben Doty agreed that it was perhaps a strong statement. Mike Wireman concluded the discussion of Section 5.0, Comment 5 by reiterating that he feels a more complete characterization of Woman Creek valley fill alluvium is warranted.

The discussion of hydrogeology then moved to Section 5.0, Comment 12 which addresses the background characterization program currently underway at Rocky Flats Plant. EPA asked where the background bedrock wells will be placed with respect to the Plant. Ben Doty and Suzanne Paschke explained that bedrock wells are being placed along strike of the Plant to the north and south. Wells are being located in the drainage south of Woman Creek and in the Rock Creek drainage away from Plant operations. Mike Wireman asked how radioactive fallout levels relate to the radionuclide concentrations in ground water at the Plant and suggested Rockwell investigate regional fallout background levels. Tom Greengard explained that Rockwell is currently investigating regional fallout levels of radionuclides in soils.

The next comment in question was RI Section 5.0, Comment 15. Martin Hestmark asked for clarification on the interpretation of error terms associated with radionuclide analyses. Mike Anderson explained that when the error term is on the same order of magnitude or greater than the value, then the value is likely close to the MDA. Lower MDAs have been specified in the revised QA/QC Plan for the ER Program.

Martin Hestmark then pointed out that the standard for plutonium 239 of 40 picoCuries per liter (pCi/l) quoted from the September 30, 1988 Federal Register by RI Section 5.0, Comment 16 is incorrect. The standard of 40 pCi/l must be interpreted relative to total transuranic alpha activity. Mike Anderson agreed with Martin's comment and noted it was addressed in the FS response to comments.

RI Section 5.0, Response to Comment 21 was the next topic of discussion. Martin Hestmark stated that Applicable or Relevant and Appropriate Requirements (ARAR) for RCRA regulated units are Maximum Contaminant Levels (MCL), Alternate Concentration Limits (ACL), or background. However, SWMUs at the 881 Hillside are not regulated units, so the ARARs are not the same. Mike Anderson commented that the EE/CA report states RCRA Subpart F regulations as To Be Considered (TBC) because it is not known that RCRA-regulated wastes were disposed at the 881 Hillside Area and therefore the regulations are relevant and not appropriate. Mike Wireman replied that EPA considers the CDH RCRA standards ARAR.

Uranium concentrations in well 3-87BR were then questioned by Martin Hestmark with regard to RI Section 5.0, Comment 25. He noted that the 16 June 1987 sample from this well contained elevated uranium and total alpha concentrations. Suzanne Paschke explained that

first and second quarter 1987 ground-water samples were not filtered prior to analysis, so the results indicated elevated uranium concentrations. Subsequent filtered samples show lower dissolved uranium concentrations. Martin commented that data should be identified as to whether or not the sample was filtered, and Rockwell agreed. Tom Greengard then asked Martin how Rockwell should treat metals samples in general. Should all samples for metals analyses be filtered? Martin Hestmark requested that both filtered and unfiltered samples be analyzed in future sample collection.

The subject of laboratory contamination of samples was revisited as RI Section 5.0, Comment 27 was discussed. Martin Hestmark feels that the levels of contamination identified in these ground-water samples does not justify sample dilution. Mike Anderson agreed but then explained that other constituents (besides volatile organics) might cause analysis interference and necessitate sample dilution. Brian O'Neal noted that since the contaminants of concern at the 881 Hillside are also common laboratory contaminants, laboratory analyses for this site will require "clean" techniques. Mike Anderson commented that laboratory contamination of samples has not been as problematic for ground water as for soils for this site, and everyone agreed.

Brian O'Neal then asked if semi-volatile analyses of ground-water samples were being performed. Suzanne Paschke explained that semi-volatile analyses were performed on ground-water samples in 1986. However, no subsequent samples were analyzed for semi-volatile organics. Brian recommended that semi-volatile analyses be performed on samples from SWMU 119.1 monitoring wells (wells 9-74, 43-87, and 5-87BR).

RI Section 5.0, Comment 30 and uranium isotope ratios was the next discussion topic. Martin Hestmark feels Rockwell has inadequate data to hypothesize as to the origin of uranium in ground water at the 881 Hillside. EPA feels Rockwell should further address the issue of uranium in ground water at the 881 Hillside. A Rockwell representative noted that the hydrogeochemical background study and lower MDAs for background and site samples will help define background levels of uranium in ground water, which will allow resolution of this issue.

Martin Hestmark continued by stating that ground-water samples should be analyzed for all volatile organic compounds and not just nine compounds as noted in RI Section 5.0, Comment 36. Ben Doty replied that all samples are now analyzed for the entire volatile organics Hazardous Substances List.

The discussion of Section 5.0 of the RI report ended with Comment 37. Mike Wireman questioned whether there are adequate monitoring wells at SWMU 119.2. He felt that the conclusion that SWMU 119.2 is not contaminating ground water should be modified to state, "Based on existing data, SWMU 119.2 is not contaminating ground water." Rockwell agreed.

Section 6.0 (Surface Water) of the RI report was discussed next. Nat Muillo and Martin Hestmark noted that the NPDES permit for Rocky Flat Plant does not require discharges from Rocky Flats Plant to be analyzed for the contaminants of concern at the 881 Hillside. They also felt that Rockwell was unjustified in making the claim in response to Section 6.0, Comment 8, that methylene chloride and acetone in sediment samples are the result of laboratory artifact. Mike Anderson noted that consistency in interpretation would be rechecked.

Review of the responses to comments then shifted to RI Section 2.0. With regard to Comment 1, EPA and Tetra Tech representatives did not believe the volatile organics in surface water were the result of laboratory artifact, as the detected compounds (carbon tetrachloride, trichloroethene, toluene, and tetrachloroethene) are not common laboratory contaminants. Mike Anderson and Suzanne Paschke explained that these values are the result of laboratory artifact. Raw laboratory data sheets from 881 Laboratory report sample results

in the order of analysis. The data sheets for these samples indicate that a ground-water sample from bedrock well 36-87BR (at the East Trenches) was analyzed prior to these surface water samples. The compounds detected in the surface water samples were detected at elevated concentrations in the ground-water sample from 36-87BR. Thus, it is concluded that the gas chromatograph column was contaminated by the 36-87BR ground-water sample, and subsequent samples appeared to contain these compounds. EPA and Tetra Tech accepted this explanation.

Brian O'Neal continued by stressing that a study of the interaction between the South Interceptor Ditch surface water and alluvial ground water should not be delayed. Suzanne Paschke explained that such studies will be implemented as part of the 903 Pad, Mound, and East Trenches Phase II RI.

With respect to RI Section 2.0, Comment 2, Martin Hestmark asked how strontium 89,90 and cesium 137 could be detected in ground water if they are not naturally occurring. Mike Anderson replied that dissolution of these compounds, which occur at ground surface due to nuclear fallout, is the likely explanation.

Section 9.0 of the RI report (Public Health and Environmental Concerns) was the next topic of discussion. Nat Muillo stated that EPA has many concerns on the public health evaluation provided by Rockwell. However, most of their concerns relate to the remedial investigation conclusions.

The meeting then shifted to the FS Report. Jerry Porter asked if Rockwell intends to reevaluate technologies and remedial alternatives upon completion of the final RI report. Tom Greengard replied yes. Jerry then asked if Rockwell knows the source of the Building 881 footing drain. Tom Greengard explained that a plan for investigating the footing drain has been prepared by Ben Doty and will soon be implemented. Martin Hestmark continued by asking if Rockwell plans to treat elevated metals and radionuclide concentrations in ground-water as part of the IRA. Tom Greengard replied that there is an internal disagreement at Rockwell over this question. Rockwell is currently proposing only treatment of volatile organic contaminants. Martin said he is "uncomfortable" with this approach, since background has not been completely characterized at this time. Tom Greengard stated that since background concentrations are poorly characterized and no ARARs have been set, they do not want to set a precedent by treating for metals and radionuclides. According to Tom, the EE/CA addresses only volatile organic compounds at this time. He suggested a formal response from EPA, if EPA wants to change the Rocky Flats Area Office (RFAO) position.

At 4:15 p.m. Nat Muillo summarized events of the meeting as follows.

1) A meeting will be held between EPA, CDH, Rockwell International, and DOE at 9:00 a.m. on 18 May 1989 at the Rocky Flats Plant Windsite to discuss QA/QC.

2) EPA will outline specific actions to by taken by Rockwell International on the 881 Hillside RI. These are expected to include (but are not limited to):

   - statistical analyses of laboratory blank data;
   - quality assurance reports; and
   - additional field work.

   EPA comments will be grouped into three categories as listed below.

   a) immediate action items for the IRA;
   b) specific RI data needs; and
   c) long term RI/FS needs.

3) With respect to the EE/CA and the IRA, Tom Greengard agreed to submit these documents to DOE for review on 5 May 1989. DOE will forward them to EPA and CDH, and EPA and CDH will respond with comments on the treatment of metals and radionuclides in ground water. Nat Muillo commented that EPA may want to prepare a separate letter to Rockwell concerning the IRA issues. Martin Hestmark wondered if Rockwell has considered using one treatment plant for all areas of Rocky Flats Plant where ground-water treatment is needed. Perhaps, replied Tom Greengard, but to date each area has been handled separately for ground-water cleanup.

The meeting adjourned at 4:50 p.m.